



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,470	09/16/2003	Jan-Erik Ekberg	4208-4148	9617

27123 7590 02/08/2007  
MORGAN & FINNEGAN, L.L.P.  
3 WORLD FINANCIAL CENTER  
NEW YORK, NY 10281-2101

EXAMINER
----------

HO, HUY C

ART UNIT	PAPER NUMBER
----------	--------------

2617

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/08/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/662,470

Applicant(s)

EKBERG, JAN-ERIK

Examiner

Huy C. Ho

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

*Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 12, 23, 31, 35, 39 and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Burr (WO 03/034664).

Consider claims 1, 12, 23, Burr teaches a system for locating at least one target device that supports a required service in an ad-hoc communications network connecting at least one device and supporting at least one service, wherein each said at least one target device is one of said at least one device and the required service is one of said at least one service (see the abstract, figures 1A and 1B), comprising:

a memory device, a computer readable medium (Figure 2, number 225);

a processor disposed in communication with the memory device (figure 2 number 220), the processor configured to:

conduct an inquiry of the mobile ad hoc communications network to discover at least one nearby device, the inquiry including an indication that said at least one nearby device may include a middleware layer (figures 2, 3, 9A, page 4, lines 13-33, page 5 lines 1-11, page 6 lines 5-13);

when the inquiry includes the indication that said at least one nearby device may include the middleware layer:

create a connection to a peer device of said at least one nearby device (fig 9A, page 11 lines 1-19);

confirm whether the peer device includes the middleware layer (figures 9A and 9B, page 4 lines 23-33, page 5 lines 1-11, page 11 lines 1-19); and

when the peer device includes the middleware layer (fig 9B, page 11 lines 1-19):

send a service discovery request to the peer device (see page 7 lines 7-22, page 9 lines 11-20); and

receive a response to the service discovery request, the response including distributed information, wherein the distributed information includes at least one reference to the required service and an association between each reference and one of said at least one target device (see page 7 lines 7-22, page 9 lines 11-20).

Consider claims 31, 35, 39 and 42, Burr teaches a system for locating a target device that supports a required service in an ad-hoc communications network connecting at least one device and supporting at least one service, wherein the target device is one of said at least one device and the required service is one of said at least one service (see the abstract, figures 1A and 1B), comprising:

a memory device or a compute readable medium (Figure 2, number 225);

a processor disposed in communication with the memory device (figure 2 number 220), the processor configured to:

maintain a distributed database to associate each said at least one service to at least one of said at least one device (page 4 lines 23-31, page 5 lines 7-11, page 6 lines 1-10);

conduct an inquiry of the ad-hoc communications network to discover at least one nearby device in said at least one device, the inquiry including an indication that said at least one nearby device may include a middleware layer (page 6 lines 11-20, page 7 lines 7-22 and page 11 lines 11-20); and

access the distributed database to determine whether said at least one nearby device includes the required service (page 4 lines 23-31, page 5 lines 7-11, page 6 lines 1-10, page 6 lines 11-20, page 7 lines 7-22 and page 11 lines 11-20).

Consider claims 3, 14, 24, the system of claims 1, 12, 23, Burr teaches wherein the distributed information includes at least one information record, each information record including at least one of device information or application information (page 7 lines 7-22).

Consider claims 6, 17, 25, The system of claims 3, 14, 24, Burr teaches wherein when the peer device includes the middleware layer, the processor is further configured to store the disclosed information in a portion of the memory device, wherein the portion includes at least one record (figures 4 and 7, page 6 lines 3-7page 7 lines 23-32).

Consider claims 9, 20, 28, The system of claims 1, 12, 23, Burr teaches wherein a portion of the memory device includes exchanged information that identifies at least one application or service that said at least one nearby device supports (page 4 lines 32-33, page 5 lines 1-25, page 6 lines 3-10).

Consider claims 10, 21, 29, The system of claims 9, 20, 28, Burr teaches wherein when receiving an inquiry request from one of said at least one nearby device, the processor is further configured to: distribute the exchanged information as part of a service discovery response (page 7 lines 7-22).

Consider claims 11, 22, 30, The system of claims 1, 12, 23, Burr teaches wherein when the peer device includes the middleware layer, the processor is further configured to:

establish a link connection to one of said at least one target device (fig 3, 9A, page 6 lines 14-20, page 11 lines 1-19); and

access the requested service (page 4 lines 23-31, page 5 lines 7-11, page 6 lines 1-10, page 6 lines 11-20, page 7 lines 7-22 and page 11 lines 11-20).

Consider claims 4, 15, The system of claims 3, 14, Burr teaches wherein the device information includes state information, an address, a friendly name, a hop count, a sequence number, a time value, and a time counter (fig 4 number 405, disclosing names, fig 9A, disclosing reachable devices, so discloses state information, figure 10, page 7 lines 7-32, page 11 lines 11-19).

Consider claims 5, 16, The system of claims 3, 14, Burr teaches wherein the application information includes an application identifier, capability information, version information, state information, an address, a hop count, a sequence number, a time value, and a time counter (page 4 lines 32-33, page 5 lines 1-11, page 6 lines 7-19, page 7 lines 7-32, page 11 lines 11-19).

Consider claims 7, 18, 26, The system of claims 6, 17, 25, Burr teaches wherein when the portion of the memory device is full, to store the disclosed information, the processor is further configured to:

identify an oldest record of said at least one record (page 5 lines 26-32, page 6 lines 1-10, page 8 lines 19-22); and

overwrite the oldest record with a new information record from said at least one information record (page 5 lines 26-32, page 6 lines 1-10, page 8 lines 19-22).

Consider claims 8, 19, 27, the system of claims 6, 17, 25, Burr teaches wherein when the portion of the memory device is full, to store the disclosed information, the processor is further configured to:

identify an old record of said at least one record (page 5 lines 26-32, page 6 lines 1-10, page 8 lines 19-22);

identify a new information record from said at least one information record, the new information record being a replacement for the old record (page 5 lines 26-32, page 6 lines 1-10, page 8 lines 19-22, disclosing a new device entering or leaving the sub-network, then the routing table changes and keeps updated information, so inherently teaches new information record being a replacement for the old record); and

overwrite the old record with the new information record (page 5 lines 26-32, page 6 lines 1-10, page 8 lines 19-22, disclosing a new device entering or leaving the sub-network, then the routing table changes and keeps updated information, so inherently teaches overwrite the old record with the new information).

Consider claims 32, 36, 40, 43, The system of claims 31, 35, 39, 42, Burr teaches wherein the processor is further configured to:

establish a link connection with said at least one nearby device if the distributed database includes an association between said at least one nearby device and the required service (page 4 lines 13-15, page 5 lines 7-11, page 6 lines 3-20 and page 7 lines 7-22, disclosing devices include common applications, will be able to communicate to one another in the sub-network, therefore, inherently teaches establish a link connection with said at least one nearby device if the distributed database includes an association between said at least one nearby device and the required service).

Consider claims 33, 37 The system of claims 32, 36, Burr teaches wherein the distributed database includes at least one reference to the required service and an association between said at least one reference and one of said at least one target device (page 6 lines 3-19, page 7 lines 7-22 and page 9 lines 11-19).

Consider claims 34, 38, 41, 44, The system of claims 31, 35, 39, 42, Burr teaches wherein the processor is further configured to:

decline a link connection with said at least one nearby device if the distributed database indicates that said at least one nearby device does not include the required service (page 5 lines 12-17).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. **Claims 2 and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Burr (WO 03/034664)** and further in view of **Johansson et al. (2002/0044549)**.

**Consider claims 2, 13**, The system of **claims 1, 12**, Burr fails to disclose the feature wherein a density of said at least one nearby device over a coverage area for the ad-hoc communications network is



high clearly, however, Burr describes new devices enter into sub-networks and tasks of updating the list of devices sharing same networks (see page 5 lines 26-32, page 6 lines 1-2, page 8 lines 19-31). In an analogous art, Johansson teaches a density of said at least one nearby device over a coverage area for the ad-hoc communications network is high (see pars [67], [70]). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify and incorporate Johansson teachings into Burr invention in order to have the feature of a density of said at least one nearby device over a coverage area for the ad-hoc communications network is high.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huy C. Ho whose telephone number is (571) 270-1108. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nick Corsaro can be reached on (571) 272-7876. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

\*\*\*

EDAN ORGAD  
PRIMARY PATENT EXAMINER

*Edan Orgad* 2/4/17